



SEQUENCE LISTING

<110> Mather, Jennie P.
Bald, Laura N.
Roberts, Penelope E.
Stephan, Jean-Philippe F.

<120> COMPOSITIONS AND METHODS FOR GENERATING
MONOCLONAL ANTIBODIES REPRESENTATIVE OF A SPECIFIC CELL TYPE

<130> 415072000110

<140> 09/614,483

<141> 2000-07-10

<150> 09/218,539

<151> 1998-12-22

<160> 8

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 2181

<212> DNA

<213> Rattus rattus

<220>

<221> sig_peptide

<222> (0)...(454)

<221> CDS

<222> (454)...(2181)

<400> 1

cac	ctc	ggt	tct	atc	gat	tcg	aat	tcg	gcc	aca	ctg	gcc	gga	tcc	tct	48
His	Leu	Gly	Ser	Ile	Asp	Ser	Asn	Ser	Ala	Thr	Leu	Ala	Gly	Ser	Ser	
-150						-145					-140					

aga	gat	ccc	tcg	acc	tcg	acc	cac	gcg	tcc	gcc	ttg	ctc	ttc	tta	tcc	96
Arg	Asp	Pro	Ser	Thr	Ser	Thr	His	Ala	Ser	Ala	Leu	Leu	Phe	Leu	Ser	
-135					-130				-125				-120			

tct	cct	ttg	caa	gaa	gag	aaa	ctc	ctc	gga	gac	agc	agc	caa	aaa	gaa	144
Ser	Pro	Leu	Gln	Glu	Glu	Lys	Leu	Leu	Gly	Asp	Ser	Ser	Gln	Lys	Glu	
			-115					-110					-105			

acc	gcg	tct	acc	ttg	aca	gac	tac	tga	agc	gtc	tcc	tgg	aat	aag	agg	192
Thr	Ala	Ser	Thr	Leu	Thr	Asp	Tyr	*	Ser	Val	Ser	Trp	Asn	Lys	Arg	
			-100					-95					-90			

gtc	gcc	cgc	ctt	ggg	agt	agc	agc	caa	aga	cgc	tga	ggg	agg	gtg	tgg	240
Val	Ala	Arg	Leu	Gly	Ser	Ser	Ser	Gln	Arg	Arg	*	Gly	Arg	Val	Trp	
			-85				-80						-75			

agg ggg gag gga gga gtt gcg ggt tcc gcg tgg agg aaa gtt gcg tgt	288
Arg Gly Glu Gly Gly Val Ala Gly Ser Ala Trp Arg Lys Val Ala Cys	
-70 -65 -60	
ggc aca gac ccg acg gcg cag cgc cac agc gcc cgg ggg atc gtg tgt	336
Gly Thr Asp Pro Thr Ala Gln Arg His Ser Ala Arg Gly Ile Val Cys	
-55 -50 -45	
ctt gga aaa aaa agt cgc tgt ccc cct aaa gcg aga ccc aca agc gag	384
Leu Gly Lys Lys Ser Arg Cys Pro Pro Lys Ala Arg Pro Thr Ser Glu	
-40 -35 -30	
cgg gcc ccg tgg gcc cgg gga cga cgc ccc ctg ctg cgg cgt gga ctt	432
Arg Ala Pro Trp Ala Arg Gly Arg Arg Pro Leu Leu Arg Arg Gly Leu	
-25 -20 -15 -10	
tgt cgg tgg cct tct agg agg agg aat atg gca tct aaa ggg tcc cct	480
Cys Arg Trp Pro Ser Arg Arg Arg Asn Met Ala Ser Lys Gly Ser Pro	
-5 1 5	
tct tgc cgt ctg gtt ttc tgc ctg ttg atc tcc gcc gcg gtc ctg aga	528
Ser Cys Arg Leu Val Phe Cys Leu Leu Ile Ser Ala Ala Val Leu Arg	
10 15 20	
cca ggc ctg gga tgg tac act gtc aac tca gca tac gga gat acc att	576
Pro Gly Leu Gly Trp Tyr Thr Val Asn Ser Ala Tyr Gly Asp Thr Ile	
25 30 35	
gtc atg cct tgc aga ctg gat gta cct cag aac ctg atg ttt ggc aaa	624
Val Met Pro Cys Arg Leu Asp Val Pro Gln Asn Leu Met Phe Gly Lys	
40 45 50 55	
tgg aaa tat gaa aag cct gat ggg tcc cca gta ttt att gca ttc aga	672
Trp Lys Tyr Glu Lys Pro Asp Gly Ser Pro Val Phe Ile Ala Phe Arg	
60 65 70	
tct tct aca aag aaa agt gtg cag tat gat gat gta cca gag tac aag	720
Ser Ser Thr Lys Lys Ser Val Gln Tyr Asp Asp Val Pro Glu Tyr Lys	
75 80 85	
gac aga ctg agc ctg tca gaa aac tac act ctg tct atc aac aat gca	768
Asp Arg Leu Ser Leu Ser Glu Asn Tyr Thr Leu Ser Ile Asn Asn Ala	
90 95 100	
aag atc agt gac gaa aag aga ttt gtg tgc atg cta gtg acc gag gac	816
Lys Ile Ser Asp Glu Lys Arg Phe Val Cys Met Leu Val Thr Glu Asp	
105 110 115	
aac gtg ttt gag gca cct acc ctg gtc aag gtg ttc aag caa cca tct	864
Asn Val Phe Glu Ala Pro Thr Leu Val Lys Val Phe Lys Gln Pro Ser	
120 125 130 135	
aaa cct gaa att gta aac aga gca gcg ttt ctt gaa aca gag cag cta	912
Lys Pro Glu Ile Val Asn Arg Ala Ala Phe Leu Glu Thr Glu Gln Leu	
140 145 150	
aaa aag tta ggt gac tgc att tca aga gac agt tac cca gac ggc aac	960

Lys	Lys	Leu	Gly	Asp	Cys	Ile	Ser	Arg	Asp	Ser	Tyr	Pro	Asp	Gly	Asn		
			155					160					165				
atc	acg	tgg	tat	agg	aat	ggg	aaa	gtg	cta	cag	cct	gtt	gat	gga	gag	1008	
Ile	Thr	Trp	Tyr	Arg	Asn	Gly	Lys	Val	Leu	Gln	Pro	Val	Asp	Gly	Glu		
		170					175					180					
gtg	tcc	ata	ctt	ttt	aaa	aag	gaa	att	gat	cca	ggg	act	cag	ttg	tat	1056	
Val	Ser	Ile	Leu	Phe	Lys	Lys	Glu	Ile	Asp	Pro	Gly	Thr	Gln	Leu	Tyr		
	185						190				195						
acc	atg	act	tcc	tcc	ttg	gag	tac	aag	aca	acc	aag	tct	gac	ata	caa	1104	
Thr	Met	Thr	Ser	Ser	Leu	Glu	Tyr	Lys	Thr	Thr	Lys	Ser	Asp	Ile	Gln		
200					205					210					215		
atg	cca	ttc	acc	tgt	tct	gtg	aca	tat	tat	gga	cct	tcg	ggc	cag	aaa	1152	
Met	Pro	Phe	Thr	Cys	Ser	Val	Thr	Tyr	Tyr	Gly	Pro	Ser	Gly	Gln	Lys		
				220				225						230			
aca	att	tat	tct	gaa	caa	gca	atc	ttt	gat	att	tac	tat	cct	aca	gag	1200	
Thr	Ile	Tyr	Ser	Glu	Gln	Ala	Ile	Phe	Asp	Ile	Tyr	Tyr	Pro	Thr	Glu		
			235					240					245				
cag	gtg	aca	ata	caa	gta	ctg	cca	cca	aaa	aat	gcc	atc	aaa	gaa	ggg	1248	
Gln	Val	Thr	Ile	Gln	Val	Leu	Pro	Pro	Lys	Asn	Ala	Ile	Lys	Glu	Gly		
		250					255					260					
gac	aac	atc	acc	ctt	cag	tgc	ttg	ggg	aat	ggc	aac	cca	cct	cct	gag	1296	
Asp	Asn	Ile	Thr	Leu	Gln	Cys	Leu	Gly	Asn	Gly	Asn	Pro	Pro	Pro	Glu		
	265					270					275						
gag	ttc	atg	ttt	tac	tta	cca	ggg	cag	gct	gaa	ggc	ata	aga	agc	tca	1344	
Glu	Phe	Met	Phe	Tyr	Leu	Pro	Gly	Gln	Ala	Glu	Gly	Ile	Arg	Ser	Ser		
280					285					290					295		
aac	act	tac	aca	ctg	aca	gac	gtg	aga	cgc	aat	gcc	acc	ggg	gac	tac	1392	
Asn	Thr	Tyr	Thr	Leu	Thr	Asp	Val	Arg	Arg	Asn	Ala	Thr	Gly	Asp	Tyr		
				300				305					310				
aaa	tgt	tct	ctc	atc	gac	caa	aga	aac	atg	gca	gct	tca	aca	acc	atc	1440	
Lys	Cys	Ser	Leu	Ile	Asp	Gln	Arg	Asn	Met	Ala	Ala	Ser	Thr	Thr	Ile		
			315					320					325				
act	gtt	cac	tac	ttg	gat	tta	tcc	tta	aac	cca	agt	ggg	gaa	gtg	acc	1488	
Thr	Val	His	Tyr	Leu	Asp	Leu	Ser	Leu	Asn	Pro	Ser	Gly	Glu	Val	Thr		
		330					335					340					
aag	cag	atc	ggg	gat	acc	ctg	cct	gtg	tct	tgc	aca	ata	tct	gca	agt	1536	
Lys	Gln	Ile	Gly	Asp	Thr	Leu	Pro	Val	Ser	Cys	Thr	Ile	Ser	Ala	Ser		
	345					350					355						
agg	aat	gca	act	gtg	gtg	tgg	atg	aag	gat	aac	atc	agg	ctc	cga	tct	1584	
Arg	Asn	Ala	Thr	Val	Val	Trp	Met	Lys	Asp	Asn	Ile	Arg	Leu	Arg	Ser		
360					365					370					375		
agt	cca	tcc	ttt	tct	agt	ctt	cat	tat	cag	gat	gct	ggg	aac	tat	gtc	1632	
Ser	Pro	Ser	Phe	Ser	Ser	Leu	His	Tyr	Gln	Asp	Ala	Gly	Asn	Tyr	Val		

380	385	390	
tgt gaa act gct ctt cag gag gtt gag gga ctg aag aaa agg gag tcg Cys Glu Thr Ala Leu Gln Glu Val Glu Gly Leu Lys Lys Arg Glu Ser 395 400 405			1680
ctg acc ctc atc gta gaa gga aaa cct caa atc aaa atg aca aag aaa Leu Thr Leu Ile Val Glu Gly Lys Pro Gln Ile Lys Met Thr Lys Lys 410 415 420			1728
act gat ccc agt gga ctg tct aag act ata atc tgc cat gtg gaa ggg Thr Asp Pro Ser Gly Leu Ser Lys Thr Ile Ile Cys His Val Glu Gly 425 430 435			1776
ttt cca aag cca gct ata cag tgg acc att acc ggc agt gga agc gtc Phe Pro Lys Pro Ala Ile Gln Trp Thr Ile Thr Gly Ser Gly Ser Val 440 445 450 455			1824
ata aac caa aca gag gag tct cct tat att aat ggc agg tat tat agt Ile Asn Gln Thr Glu Glu Ser Pro Tyr Ile Asn Gly Arg Tyr Tyr Ser 460 465 470			1872
aaa att atc att tcc cct gag gag aat gtt aca tta act tgc aca gca Lys Ile Ile Ile Ser Pro Glu Glu Asn Val Thr Leu Thr Cys Thr Ala 475 480 485			1920
gaa aac caa ctg gag aga aca gta aac tcc ctg aat gtc tct gcg ata Glu Asn Gln Leu Glu Arg Thr Val Asn Ser Leu Asn Val Ser Ala Ile 490 495 500			1968
agt att cca gaa cac gat gag gca gac gat ata agt gat gaa aat aga Ser Ile Pro Glu His Asp Glu Ala Asp Asp Ile Ser Asp Glu Asn Arg 505 510 515			2016
gaa aag gtg aat gac cag gcc aaa cta att gtg ggc att gtg gtt ggt Glu Lys Val Asn Asp Gln Ala Lys Leu Ile Val Gly Ile Val Val Gly 520 525 530 535			2064
ctc ctc ctc gcc gcc ctc gtc gcc ggt gtc gtc tac tgg ctg tac atg Leu Leu Leu Ala Ala Leu Val Ala Gly Val Val Tyr Trp Leu Tyr Met 540 545 550			2112
aag aaa tcg aaa act gca tca aaa cat gca aaa aaa aaa aaa aaa Lys Lys Ser Lys Thr Ala Ser Lys His Ala Lys Lys Lys Lys Lys Lys 555 560 565			2160
aaa aaa aag ggc ggc cgc gac Lys Lys Lys Gly Gly Arg Asp 570			2181

<210> 2

<211> 725

<212> PRT

<213> Rattus rattus

<220>

```
<221> SIGNAL
<222> (1) ... (152)
```

<400> 2

His	Leu	Gly	Ser	Ile	Asp	Ser	Asn	Ser	Ala	Thr	Leu	Ala	Gly	Ser	Ser	
		-150					-145					-140				
Arg	Asp	Pro	Ser	Thr	Ser	Thr	His	Ala	Ser	Ala	Leu	Leu	Phe	Leu	Ser	
	-135					-130					-125					
Ser	Pro	Leu	Gln	Glu	Glu	Lys	Leu	Leu	Gly	Asp	Ser	Ser	Gln	Lys	Glu	
-120					-115					-110					-105	
Thr	Ala	Ser	Thr	Leu	Thr	Asp	Tyr	Ser	Val	Ser	Trp	Asn	Lys	Arg	Val	
				-100					-95					-90		
Ala	Arg	Leu	Gly	Ser	Ser	Ser	Gln	Arg	Arg	Gly	Arg	Val	Trp	Arg	Gly	
		-85					-80					-75				
Glu	Gly	Gly	Val	Ala	Gly	Ser	Ala	Trp	Arg	Lys	Val	Ala	Cys	Gly	Thr	
	-70						-65				-60					
Asp	Pro	Thr	Ala	Gln	Arg	His	Ser	Ala	Arg	Gly	Ile	Val	Cys	Leu	Gly	
	-55					-50					-45					
Lys	Lys	Ser	Arg	Cys	Pro	Pro	Lys	Ala	Arg	Pro	Thr	Ser	Glu	Arg	Ala	
-40					-35					-30					-25	
Pro	Trp	Ala	Arg	Gly	Arg	Arg	Pro	Leu	Leu	Arg	Arg	Gly	Leu	Cys	Arg	
				-20					-15					-10		
Trp	Pro	Ser	Arg	Arg	Arg	Asn	Met	Ala	Ser	Lys	Gly	Ser	Pro	Ser	Cys	
		-5						1				5				
Arg	Leu	Val	Phe	Cys	Leu	Leu	Ile	Ser	Ala	Ala	Val	Leu	Arg	Pro	Gly	
	10					15					20					
Leu	Gly	Trp	Tyr	Thr	Val	Asn	Ser	Ala	Tyr	Gly	Asp	Thr	Ile	Val	Met	
25					30					35					40	
Pro	Cys	Arg	Leu	Asp	Val	Pro	Gln	Asn	Leu	Met	Phe	Gly	Lys	Trp	Lys	
				45					50					55		
Tyr	Glu	Lys	Pro	Asp	Gly	Ser	Pro	Val	Phe	Ile	Ala	Phe	Arg	Ser	Ser	
		60					65						70			
Thr	Lys	Lys	Ser	Val	Gln	Tyr	Asp	Asp	Val	Pro	Glu	Tyr	Lys	Asp	Arg	
	75						80					85				
Leu	Ser	Leu	Ser	Glu	Asn	Tyr	Thr	Leu	Ser	Ile	Asn	Asn	Ala	Lys	Ile	
	90					95					100					
Ser	Asp	Glu	Lys	Arg	Phe	Val	Cys	Met	Leu	Val	Thr	Glu	Asp	Asn	Val	
105				110						115					120	
Phe	Glu	Ala	Pro	Thr	Leu	Val	Lys	Val	Phe	Lys	Gln	Pro	Ser	Lys	Pro	
				125					130					135		
Glu	Ile	Val	Asn	Arg	Ala	Ala	Phe	Leu	Glu	Thr	Glu	Gln	Leu	Lys	Lys	
		140					145						150			
Leu	Gly	Asp	Cys	Ile	Ser	Arg	Asp	Ser	Tyr	Pro	Asp	Gly	Asn	Ile	Thr	
	155					160					165					
Trp	Tyr	Arg	Asn	Gly	Lys	Val	Leu	Gln	Pro	Val	Asp	Gly	Glu	Val	Ser	
	170				175						180					
Ile	Leu	Phe	Lys	Lys	Glu	Ile	Asp	Pro	Gly	Thr	Gln	Leu				

Leu	Ala	Val	Val	Thr	Ala	Thr	Leu	Ala	Ala	Ala	Gln	Lys	Asp	Cys	Val		
		15					20					25					
tgt	aac	aac	tac	aag	ctg	acg	tca	cgg	tgc	tat	gag	aat	gag	aat	ggg		265
Cys	Asn	Asn	Tyr	Lys	Leu	Thr	Ser	Arg	Cys	Tyr	Glu	Asn	Glu	Asn	Gly		
	30					35					40						
gaa	tgc	cag	tgt	act	tcc	tat	ggg	aca	caa	aat	act	gtc	att	tgc	tcc		313
Glu	Cys	Gln	Cys	Thr	Ser	Tyr	Gly	Thr	Gln	Asn	Thr	Val	Ile	Cys	Ser		
	45				50					55					60		
aaa	ctg	gca	tcc	aag	tgc	ttg	gtg	atg	aag	gcg	gag	atg	act	cac	agc		361
Lys	Leu	Ala	Ser	Lys	Cys	Leu	Val	Met	Lys	Ala	Glu	Met	Thr	His	Ser		
				65					70					75			
aag	tct	ggg	agg	agg	atg	aaa	ccc	gag	ggg	gcg	atc	cag	aac	aac	gac		409
Lys	Ser	Gly	Arg	Arg	Met	Lys	Pro	Glu	Gly	Ala	Ile	Gln	Asn	Asn	Asp		
			80					85					90				
ggg	ctg	tat	gat	ccc	gag	tgt	gac	gag	caa	ggg	ctc	ttc	aaa	gcc	aag		457
Gly	Leu	Tyr	Asp	Pro	Glu	Cys	Asp	Glu	Gln	Gly	Leu	Phe	Lys	Ala	Lys		
		95					100					105					
cag	tgc	aac	ggc	acc	gcc	acg	tgc	tgg	tgc	gtg	aac	acc	gcg	ggg	gtc		505
Gln	Cys	Asn	Gly	Thr	Ala	Thr	Cys	Trp	Cys	Val	Asn	Thr	Ala	Gly	Val		
	110					115					120						
cgg	aga	acc	gac	aag	gac	acg	gag	atc	acg	tgc	tcc	gag	aga	gtg	agg		553
Arg	Arg	Thr	Asp	Lys	Asp	Thr	Glu	Ile	Thr	Cys	Ser	Glu	Arg	Val	Arg		
	125				130					135					140		
acc	tac	tgg	atc	atc	att	gag	ctc	aaa	cac	aaa	gaa	aga	gca	cag	cct		601
Thr	Tyr	Trp	Ile	Ile	Ile	Glu	Leu	Lys	His	Lys	Glu	Arg	Ala	Gln	Pro		
				145					150					155			
tat	aac	ttc	gag	agt	ttg	cat	act	gca	ctt	cag	gac	aca	ttt	gca	tct		649
Tyr	Asn	Phe	Glu	Ser	Leu	His	Thr	Ala	Leu	Gln	Asp	Thr	Phe	Ala	Ser		
			160					165					170				
cga	tac	atg	ctg	aat	ccg	aaa	ttt	atc	aaa	agt	att	atg	tat	gag	aat		697
Arg	Tyr	Met	Leu	Asn	Pro	Lys	Phe	Ile	Lys	Ser	Ile	Met	Tyr	Glu	Asn		
		175					180					185					
aat	gtt	atc	act	att	gat	ttg	atg	caa	aac	tct	tct	cag	aag	act	caa		745
Asn	Val	Ile	Thr	Ile	Asp	Leu	Met	Gln	Asn	Ser	Ser	Gln	Lys	Thr	Gln		
	190					195					200						
gat	gat	gtg	gac	ata	gct	gat	gtg	gct	tac	tat	ttt	gag	aaa	gat	gta		793
Asp	Asp	Val	Asp	Ile	Ala	Asp	Val	Ala	Tyr	Tyr	Phe	Glu	Lys	Asp	Val		
	205				210					215					220		
aag	ggg	gag	tcc	ttg	ttc	cat	tca	tct	aag	agc	atg	gac	ctg	agg	gtg		841
Lys	Gly	Glu	Ser	Leu	Phe	His	Ser	Ser	Lys	Ser	Met	Asp	Leu	Arg	Val		
				225					230					235			
aac	ggg	gag	ctc	ctc	gat	ctg	gac	ccc	ggg	cag	act	ctg	att	tac	tac		889
Asn	Gly	Glu	Leu	Leu	Asp	Leu	Asp	Pro	Gly	Gln	Thr	Leu	Ile	Tyr	Tyr		

240	245	250	
gtc gat gaa aag gcc ccg gag ttt tcc atg cag ggc ctc acg gct ggg			937
Val Asp Glu Lys Ala Pro Glu Phe Ser Met Gln Gly Leu Thr Ala Gly			
255	260	265	
atc atc gcc gtc att gtc gtg gtg gtg tta gca gtc att gcg ggg att			985
Ile Ile Ala Val Ile Val Val Val Val Leu Ala Val Ile Ala Gly Ile			
270	275	280	
gtt gtc ctg gtt ata tct aca agg aag aga tca gca aaa tat gag aag			1033
Val Val Leu Val Ile Ser Thr Arg Lys Arg Ser Ala Lys Tyr Glu Lys			
285	290	295	300
gct gag ata aag gag atg ggt gag ata cac aga gag ctc aat gcc			1078
Ala Glu Ile Lys Glu Met Gly Glu Ile His Arg Glu Leu Asn Ala			
305	310	315	
taaccaacca tgccgtgtgc tgcactgagg agggagccac cggacggaaa tggcgaagaa			1138
ctcaggttgc aaacggatag acctggggag gatggagacc tttcgagggt cactgctttg			1198
ttagctaagc tcacacattt gtaacagtga aatttgtact cataaataca agcagcttga			1258
cattggcaaa aaaaaaaaaa aaaaaaaaaa agg			1291

<210> 4
 <211> 315
 <212> PRT
 <213> Rattus rattus

<400> 4

Met Ala Pro Pro Lys Ala Leu Ala Phe Gly Leu Leu Leu Ala Val Val			
1	5	10	15
Thr Ala Thr Leu Ala Ala Ala Gln Lys Asp Cys Val Cys Asn Asn Tyr			
20	25	30	
Lys Leu Thr Ser Arg Cys Tyr Glu Asn Glu Asn Gly Glu Cys Gln Cys			
35	40	45	
Thr Ser Tyr Gly Thr Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ser			
50	55	60	
Lys Cys Leu Val Met Lys Ala Glu Met Thr His Ser Lys Ser Gly Arg			
65	70	75	80
Arg Met Lys Pro Glu Gly Ala Ile Gln Asn Asn Asp Gly Leu Tyr Asp			
85	90	95	
Pro Glu Cys Asp Glu Gln Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly			
100	105	110	
Thr Ala Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp			
115	120	125	
Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile			
130	135	140	
Ile Ile Glu Leu Lys His Lys Glu Arg Ala Gln Pro Tyr Asn Phe Glu			
145	150	155	160
Ser Leu His Thr Ala Leu Gln Asp Thr Phe Ala Ser Arg Tyr Met Leu			
165	170	175	
Asn Pro Lys Phe Ile Lys Ser Ile Met Tyr Glu Asn Asn Val Ile Thr			
180	185	190	
Ile Asp Leu Met Gln Asn Ser Ser Gln Lys Thr Gln Asp Asp Val Asp			
195	200	205	
Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser			
210	215	220	

Leu	Phe	His	Ser	Ser	Lys	Ser	Met	Asp	Leu	Arg	Val	Asn	Gly	Glu	Leu
225					230				235						240
Leu	Asp	Leu	Asp	Pro	Gly	Gln	Thr	Leu	Ile	Tyr	Tyr	Val	Asp	Glu	Lys
				245				250						255	
Ala	Pro	Glu	Phe	Ser	Met	Gln	Gly	Leu	Thr	Ala	Gly	Ile	Ile	Ala	Val
			260					265					270		
Ile	Val	Val	Val	Val	Leu	Ala	Val	Ile	Ala	Gly	Ile	Val	Val	Leu	Val
		275					280					285			
Ile	Ser	Thr	Arg	Lys	Arg	Ser	Ala	Lys	Tyr	Glu	Lys	Ala	Glu	Ile	Lys
	290					295					300				
Glu	Met	Gly	Glu	Ile	His	Arg	Glu	Leu	Asn	Ala					
305					310					315					

<210> 5
 <211> 315
 <212> PRT
 <213> Rattus rattus

<400> 5

Met	Ala	Pro	Pro	Lys	Ala	Leu	Ala	Phe	Gly	Leu	Leu	Leu	Ala	Val	Val
1				5				10					15		
Thr	Ala	Thr	Leu	Ala	Ala	Ala	Gln	Lys	Asp	Cys	Val	Cys	Asn	Asn	Tyr
			20					25					30		
Lys	Leu	Thr	Ser	Arg	Cys	Tyr	Glu	Asn	Glu	Asn	Gly	Glu	Cys	Gln	Cys
		35					40					45			
Thr	Ser	Tyr	Gly	Thr	Gln	Asn	Thr	Val	Ile	Cys	Ser	Lys	Leu	Ala	Ser
	50					55					60				
Lys	Cys	Leu	Val	Met	Lys	Ala	Glu	Met	Thr	His	Ser	Lys	Ser	Gly	Arg
65					70					75					80
Arg	Met	Lys	Pro	Glu	Gly	Ala	Ile	Gln	Asn	Asn	Asp	Gly	Leu	Tyr	Asp
				85					90					95	
Pro	Glu	Cys	Asp	Glu	Gln	Gly	Leu	Phe	Lys	Ala	Lys	Gln	Cys	Asn	Gly
			100					105					110		
Thr	Ala	Thr	Cys	Trp	Cys	Val	Asn	Thr	Ala	Gly	Val	Arg	Arg	Thr	Asp
		115					120					125			
Lys	Asp	Thr	Glu	Ile	Thr	Cys	Ser	Glu	Arg	Val	Arg	Thr	Tyr	Trp	Ile
	130					135					140				
Ile	Ile	Glu	Leu	Lys	His	Lys	Glu	Arg	Ala	Gln	Pro	Tyr	Asn	Phe	Glu
145					150					155					160
Ser	Leu	His	Thr	Ala	Leu	Gln	Asp	Thr	Phe	Ala	Ser	Arg	Tyr	Met	Leu
				165					170					175	
Asn	Pro	Lys	Phe	Ile	Lys	Ser	Ile	Met	Tyr	Glu	Asn	Asn	Val	Ile	Thr
			180					185					190		
Ile	Asp	Leu	Met	Gln	Asn	Ser	Ser	Gln	Lys	Thr	Gln	Asp	Asp	Val	Asp
		195					200					205			
Ile	Ala	Asp	Val	Ala	Tyr	Tyr	Phe	Glu	Lys	Asp	Val	Lys	Gly	Glu	Ser
	210					215					220				
Leu	Phe	His	Ser	Ser	Lys	Ser	Met	Asp	Leu	Arg	Val	Asn	Gly	Glu	Leu
225					230					235					240
Leu	Asp	Leu	Asp	Pro	Gly	Gln	Thr	Leu	Ile	Tyr	Tyr	Val	Asp	Glu	Lys
				245				250						255	
Ala	Pro	Glu	Phe	Ser	Met	Gln	Gly	Leu	Thr	Ala	Gly	Ile	Ile	Ala	Val
			260					265					270		
Ile	Val	Val	Val	Val	Leu	Ala	Val	Ile	Ala	Gly	Ile	Val	Val	Leu	Val
		275					280					285			
Ile	Ser	Thr	Arg	Lys	Arg	Ser	Ala	Lys	Tyr	Glu	Lys	Ala	Glu	Ile	Lys
	290					295					300				

Glu Met Gly Glu Ile His Arg Glu Leu Asn Ala
 305 310 315

<210> 6
 <211> 314
 <212> PRT
 <213> Mus musculus

<400> 6
 Met Ala Gly Pro Gln Ala Leu Ala Phe Gly Leu Leu Leu Ala Val Val
 1 5 10 15
 Thr Ala Thr Leu Ala Ala Ala Gln Arg Asp Cys Val Cys Asp Asn Tyr
 20 25 30
 Lys Leu Ala Thr Ser Cys Ser Leu Asn Glu Tyr Gly Glu Cys Gln Cys
 35 40 45
 Thr Ser Tyr Gly Thr Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ser
 50 55 60
 Lys Cys Leu Ala Met Lys Ala Glu Met Thr His Ser Lys Ser Gly Arg
 65 70 75 80
 Arg Ile Lys Pro Glu Gly Ile Gln Asn Asn Asp Gly Leu Tyr Asp Pro
 85 90 95
 Asp Cys Asp Glu Gln Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly Thr
 100 105 110
 Ala Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp Lys
 115 120 125
 Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile Ile
 130 135 140
 Ile Glu Leu Lys His Lys Glu Arg Glu Ser Pro Tyr Asp His Gln Ser
 145 150 155 160
 Leu Gln Thr Ala Leu Gln Glu Ala Phe Thr Ser Arg Tyr Lys Leu Asn
 165 170 175
 Gln Lys Phe Ile Lys Asn Ile Met Tyr Glu Asn Asn Val Ile Thr Ile
 180 185 190
 Asp Leu Met Gln Asn Ser Ser Gln Lys Thr Gln Asp Asp Val Asp Ile
 195 200 205
 Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser Leu
 210 215 220
 Phe His Ser Ser Lys Ser Met Asp Leu Arg Val Asn Gly Glu Pro Leu
 225 230 235 240
 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala
 245 250 255
 Pro Glu Phe Ser Met Gln Gly Leu Thr Ala Gly Ile Ile Ala Val Ile
 260 265 270
 Val Val Val Ser Leu Ala Val Ile Ala Gly Ile Val Val Leu Val Ile
 275 280 285
 Ser Thr Arg Lys Lys Ser Ala Lys Tyr Glu Lys Ala Glu Ile Lys Glu
 290 295 300
 Met Gly Glu Ile His Arg Glu Leu Asn Ala
 305 310

<210> 7
 <211> 314
 <212> PRT
 <213> Homo sapien

<400> 7
 Met Ala Pro Pro Gln Val Leu Ala Phe Gly Leu Leu Leu Ala Ala Ala

1		5		10		15									
Thr	Ala	Thr	Phe	Ala	Ala	Ala	Gln	Glu	Glu	Cys	Val	Cys	Glu	Asn	Tyr
		20						25					30		
Lys	Leu	Ala	Val	Asn	Cys	Phe	Val	Asn	Asn	Asn	Arg	Gln	Cys	Gln	Cys
		35					40					45			
Thr	Ser	Val	Gly	Ala	Gln	Asn	Thr	Val	Ile	Cys	Ser	Lys	Leu	Ala	Ala
	50					55					60				
Lys	Cys	Leu	Val	Met	Lys	Ala	Glu	Met	Asn	Gly	Ser	Lys	Leu	Gly	Arg
65					70					75					80
Arg	Ala	Lys	Pro	Glu	Gly	Ala	Leu	Gln	Asn	Asn	Asp	Gly	Leu	Tyr	Asp
			85					90						95	
Pro	Asp	Cys	Asp	Glu	Ser	Gly	Leu	Phe	Lys	Ala	Lys	Gln	Cys	Asn	Gly
		100						105					110		
Thr	Ser	Thr	Cys	Trp	Cys	Val	Asn	Thr	Ala	Gly	Val	Arg	Arg	Thr	Asp
		115					120					125			
Lys	Asp	Thr	Glu	Ile	Thr	Cys	Ser	Glu	Arg	Val	Arg	Thr	Tyr	Trp	Ile
	130					135					140				
Ile	Ile	Glu	Leu	Lys	His	Lys	Ala	Arg	Glu	Lys	Pro	Tyr	Asp	Ser	Lys
145					150					155					160
Ser	Leu	Arg	Thr	Ala	Leu	Gln	Lys	Glu	Ile	Thr	Thr	Arg	Tyr	Gln	Leu
			165					170						175	
Asp	Pro	Lys	Phe	Ile	Thr	Ser	Ile	Leu	Tyr	Glu	Asn	Asn	Val	Ile	Thr
		180						185					190		
Ile	Asp	Leu	Val	Gln	Asn	Ser	Ser	Gln	Lys	Thr	Gln	Asn	Asp	Val	Asp
	195					200						205			
Ile	Ala	Asp	Val	Ala	Tyr	Tyr	Phe	Glu	Lys	Asp	Val	Lys	Gly	Glu	Ser
	210					215					220				
Leu	Phe	His	Ser	Lys	Lys	Met	Asp	Leu	Thr	Val	Asn	Gly	Glu	Gln	Leu
225					230					235					240
Asp	Leu	Asp	Pro	Gly	Gln	Thr	Leu	Ile	Tyr	Tyr	Val	Asp	Glu	Lys	Ala
			245					250						255	
Pro	Glu	Phe	Ser	Met	Gln	Gly	Leu	Lys	Ala	Gly	Val	Ile	Ala	Val	Ile
		260						265					270		
Val	Val	Val	Val	Met	Ala	Val	Val	Ala	Gly	Ile	Val	Val	Leu	Val	Ile
		275					280					285			
Ser	Arg	Lys	Lys	Arg	Met	Ala	Lys	Tyr	Glu	Lys	Ala	Glu	Ile	Lys	Glu
	290				295						300				
Met	Gly	Glu	Met	His	Arg	Glu	Leu	Asn	Ala						
305					310										

<210> 8
 <211> 323
 <212> PRT
 <213> Homo sapien

<400> 8															
Met	Ala	Arg	Gly	Pro	Gly	Leu	Ala	Pro	Pro	Pro	Leu	Arg	Leu	Pro	Leu
1				5					10				15		
Leu	Leu	Leu	Val	Leu	Ala	Ala	Val	Thr	Gly	His	Thr	Ala	Ala	Gln	Asp
		20						25					30		
Asn	Cys	Thr	Cys	Pro	Thr	Asn	Lys	Met	Thr	Val	Cys	Ser	Pro	Asp	Gly
	35					40					45				
Pro	Gly	Gly	Arg	Cys	Gln	Cys	Arg	Ala	Leu	Gly	Ser	Gly	Met	Ala	Val
	50				55					60					
Asp	Cys	Ser	Thr	Leu	Thr	Ser	Lys	Cys	Leu	Leu	Leu	Lys	Ala	Arg	Met
65				70					75					80	
Ser	Ala	Pro	Lys	Asn	Ala	Arg	Thr	Leu	Val	Arg	Pro	Ser	Glu	His	Ala

